

REMARKS

Claims 1, 4, 5 and 7-20 have been examined.

Claim Rejections - 35 U.S.C. § 103

Wakamatsu and Bernd

Claims 1, 4, 5, 7, 8, 16, 17, and 20 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Wakamatsu (JP 2001182836 A) in view of Bernd et al. (U.S. Patent 5,731,541; henceforth “Bernd”).

Claim 1 now recites, “wherein when a common logarithm (x) of a shear rate (s^{-1}) and a common logarithm (y) of a viscosity (Pa·s) of the gasket material is represented by the formula: $y = -ax + b$ wherein a and b are positive numbers, the a value is 0.3 or more.”

The above feature was previously recited in claim 11. Applicant submits that the Examiner has inherently acknowledged that claim 11 is patentable over the combination of references because the Examiner does not assert that the features of claim 11 are taught, or even suggested by the either Wakamatsu or Bernd. Thus, for at least this reason, Applicant respectfully requests that the rejection of claim 11 be withdrawn.

Furthermore, Applicant submits that claims 4, 5, 7, 8, 16, 17 and 20 are patentable over the cited references at least by virtue of their dependency.

Watanabe and Bernd

Claims 1, 4, 5, and 9-18 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Watanabe et al. (JP 2001225392 A; henceforth “Watanabe”) in view of Bernd.

Claim 1 now recites, “wherein a ratio (h/w) of a height (h) of the gasket to a line width (w) thereof on a joint surface between the gasket and the cover member is in the range of 1.3 to 3.0 in a 80% or more portion of the gasket.” (see Example 5 (Table 4) of present Application)

On page 5 of the Office Action, the Examiner maintains that, “the ratio of ~ 1 is achieved in at least 80% or more portion of the gasket because it is formed by the automatic coating controlling apparatus using the same gasket material.” As set forth above, however, claim 1 now recites that the ratio (h/w) of a height (h) of the gasket to a line width (w) thereof on a joint surface between the gasket and the cover member is 1.3 to 3.0.

In regard to the above, Applicant refers to Examples 2 and 3 of the present application, where the gaskets having such high ratios (h/w) (i.e., ratio values 1.7 and 1.8) are realized by:

- (i) building a multi-stage gasket,
- (ii) curing a first-stage gasket after formation of the first-stage gasket but before formation of a second-stage gasket,
- (iii) employing a gasket material having “a value” (shear rate dependency of the viscosity) of 0.3 or more, and
- (iv) employing a pneumatic-type extruder.

Applicant notes that Comparative Examples 1, 3 and 4 of the present application do not satisfy the above condition (i), Comparative Example 2 does not satisfy the condition (ii), Comparative Examples 1 and 2 do not satisfy the condition (iii), and Example 1 and Comparative Example 5 do not satisfy the condition (iv). Furthermore, none of these cited Examples and Comparative Examples realize any gasket which shows the ratio (h/w) of 1.3 or greater. In other words, the combination of the conditions (i)-(iv) is necessary to reach the ratio (h/w) of 1.3 or greater (i.e., 1.3 to 3.0 as claimed).

Applicant submits that neither of the cited references teach or suggest a ratio of 1.3 to 3.0. Furthermore, the references are completely silent regarding a combination of conditions (i)-(iv) or any other method to build the gasket having such a high ratio (h/w) as claimed. Applicant submits that any individual indications of the conditions (i)-(iv) in either of the references would not teach or suggest the combination of the conditions (i)-(iv). Thus, there is clearly no motivation or rational reason provided by the references to arrive at the claimed ratio of (h/w).

At least based on the foregoing, Applicant submits that a person skilled in the art would not obtain a process for producing a gasket having the ratio (h/w) in the range of 1.3 to 3.0, as claimed, based on the teachings of the references.

Applicant submits that claims 4, 5, and 9-18 are patentable over the cited references at least by virtue of their dependency.

Kawabuchi and Bernd

Claims 1, 4-5, 9, and 11-19 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kawabuchi et al. (U.S. Patent 5,945,463; henceforth “Kawabuchi”) in view of Bernd.

Applicant submits that claim 1 is patentable over the cited reference. For example, claim 1 recites, “wherein a ratio (h/w) of a height (h) of the gasket to a line width (w) thereof on a joint surface between the gasket and the cover member is in the range of 1.3 to 3.0 in a 80% or more portion of the gasket.” (see Example 5 (Table 4) of present Application)

The Examiner states that Kawabuchi discloses that the gasket is generally formed to a shape of an approximate half circle having a width of the part in contact with the substrate of 1 to

3 mm and a height from the surface of the substrate of about 0.5 to 1.5 mm, i.e., with a h/w ratio within a range of 0.5-1.5 to 0.167-0.5 (pg. 7 of Office Action).

For analogous reasons as set forth above for the rejection of claim 1 in view of Watanabe and Bernd, Applicant submits that Kawabuchi is silent regarding any method to realize a ratio (h/w) of 1.3 or greater (i.e., 1.3 to 3.0), and likewise does not discuss any of the above-mentioned conditions (i)-(iv) that would result in a ratio of 1.3 or greater. Thus, it is reasonably understood that Kawabuchi indicates that the lower limit of the width (1 mm) corresponds to the lower limit of the height (0.5 mm), and the upper limit of the width (3 mm) corresponds to the upper limit of the height (1.5 mm), such that the ratio (h/w) would be 0.5. Applicant submits that such understanding of the reference is confirmed in Examples 5 and 6 of Kawabuchi, where the ratios (h/w) are 0.5 (see column 13, lines 61-64, and column 14, lines 24-28 of Kawabuchi).

At least based on the foregoing, Applicant submits that claim 1 is patentable over the cited references.

Since claims 4-5, 9 and 11-19 are dependent upon claim 1, Applicant submits that such claims are patentable at least by virtue of their dependency.

In addition, claim 19 recites “wherein the activation energy ray irradiation apparatus is an ultraviolet light irradiation apparatus, and an irradiation outlet thereof is moved in association with the extrusion orifice of the three-dimensional automatic coating controlling apparatus”.

The Examiner asserts that Kawabuchi teaches this feature. Specifically, the Examiner asserts that Kawabuchi teaches “gasket material extruded from an extrusion orifice onto the cover may be cured while extruding using UV apparatus that is moved together with a dispenser

to maintain an extruded shape (See Figs. 1 and 2; column 9, lines 23-40)". See Page 10, lines 13-15. Applicant submits that the Examiner has misconstrued the applied reference.

The section of Kawabuchi cited by the Examiner describe an apparatus for discharging and curing gasket material using UV light. See Col. 9, lines 23-27. As shown in Fig. 1, the apparatus is equipped with a pipe 2 for supplying a composition curable by UV light, a dispenser 3 and a control part for an X-Y-Z driving robot 1,. See Col. 9, lines 28-32. Kawabuchi describes **the dispenser**, which transfers the UV light curable composition from a storage tank, being controlled by the X-Y-Z-driving robot 1 to discharge the composition in a specific shape. See Col. 9, lines 32-36. In other words, Kawabuchi describes a dispenser which discharges the UV light curable composition, and the **dispenser is controlled by the X-Y-Z-driving robot 1**. Fig. 2 shows the composition being discharged into a specified shape.

Kawabuchi also describes an apparatus for irradiating UV light to cure the composition **after it has been discharged from the dispenser**. See Col. 9, lines 36-40. However, **Kawabuchi does not show the apparatus for irradiating UV light in any of the figures**. Further, Kawabuchi neither teaches, nor even fairly suggests that the X-Y-Z-driving robot **moves the apparatus for irradiating UV light in any way**. Therefore, Applicant submits that Kawabuchi does not teach, or even fairly suggest "an ultraviolet light irradiation apparatus, and an irradiation outlet thereof is **moved in association** with the extrusion orifice of the three-dimensional automatic coating controlling apparatus" and thus the features of claim 19 are patentable over this reference. Further, Bernd does not provide any teachings regarding moving a UV light irradiation apparatus in association with an extrusion orifice.

At least based on the foregoing, Applicant submits that claim 19 is patentable over the cited references.

Combination of Watanabe, Bernd, and Kawabuchi

Claims 7-15 and 20 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Watanabe in view of Bernd or alternatively over Kawabuchi in view of Bernd, as applied above, and further in view of Wakamatsu. Further, claims 8-15 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Wakamatsu in view of Bernd or alternatively over Kawabuchi in view of Bernd, as applied above, and further in view of Watanabe. Further, claims 8-20 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Wakamatsu in view of Bernd or alternatively over Watanabe et al. '392 in view of Bernd, as applied above, and further in view of Kawabuchi.

Since, however, claims 7-20 are dependent upon claim 1, and claim 1 is deemed patentable over the various cited references for the reasons set forth above, Applicant submits that claims 7-20 are patentable at least by virtue of their dependency.

Newly Added Claims

By this Amendment, Applicant has added claims 22-24. Claims 22-24 correspond to the recitations of claims 2, 3 and 6 that were previously incorporated into claim 1.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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